Geophysical Research Abstracts
Vol. 17, EGU2015-5138-1, 2015
EGU General Assembly 2015

Globes from global data: Charting international research networks with the GRASS GIS r.out.polycones add-on module.

Peter Löwe
Technische Informationsbibliothek TIB, Development, Hannover, Germany (peter.loewe@tib.uni-hannover.de)

Many Free and Open Source Software (FOSS) tools have been created for the various application fields within geoscience. While FOSS allows re-implementation of functionalities in new environments by access to the original codebase, the easiest approach to build new software solutions for new problems is the combination or merging of existing software tools.

Such mash-ups are implemented by embedding and encapsulating FOSS tools within each another, effectively focusing the use of the embedded software to the specific role it needs to perform in the given scenario, while ignoring all its other capabilities.

GRASS GIS is a powerful and established FOSS GIS for raster, vector and volume data processing while the Generic Mapping Tools (GMT) are a suite of powerful Open Source mapping tools, which exceed the mapping capabilities of GRASS GIS.

This poster reports on the new GRASS GIS add-on module r.out.polycones. It enables users to utilize non-continuous projections for map production within the GRASS production environment. This is implemented on the software level by encapsulating a subset of GMT mapping capabilities into a GRASS GIS (Version 6.x) add-on module.

The module was developed at the German National Library of Science and Technology (TIB) to provide custom global maps of scientific collaboration networks, such as the DataCite consortium, the registration agency for Digital Object Identifiers (DOI) for research data.

The GRASS GIS add-on module can be used for global mapping of raster data into a variety of non continuous sinosoidal projections, allowing the creation of printable biangles (gores) to be used for globe making.

Due to the well structured modular nature of GRASS modules, technical follow-up work will focus on API-level Python-based integration in GRASS 7 [1]. Based on this, GMT based mapping capabilities in GRASS will be extended beyond non-continuous sinosoidal maps and advanced from raster-layers to content GRASS display monitors.

References:
[1] Petras, V., Petrasova, A., Chemin, Y., Zambelli, P., Landa, M., Gebbert, S., Neteler, N., Löwe, P.: Analyzing rasters, vectors and time series using new Python interfaces in GRASS GIS 7, Geophysical Research Abstracts Vol. 17, EGU2015-8142, 2015 (in preparation)